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**DEPARTMENT OF TRANSPORTATION**

**[4910-22-P]**

**Federal Highway Administration**

**23 CFR Part 627**

**[FHWA Docket No. FHWA–2013–0039]**

**RIN 2125-AF64**

**Value Engineering**

**AGENCY:** Federal Highway Administration (FHWA), Department of Transportation (DOT).

**ACTION:** Final Rule.

**SUMMARY:** The FHWA is updating the existing value engineering (VE) regulations to make them consistent with the statutory changes in the Moving Ahead for Progress in the 21st Century Act (MAP-21) and to make other non-substantive changes for clarity.

**DATES:** This final rule is effective [insert 30 days after date of publication in the Federal Register].

**FOR FURTHER INFORMATION CONTACT:** For technical information: Mr. Ken Leuderalbert, FHWA Utilities and Value Engineering Program Manager, FHWA Office of Program Administration, 317-226-5351, or via e-mail at [ken.leuderalbert@dot.gov](mailto:ken.leuderalbert@dot.gov).

For legal questions, please contact Mr. William Winne, FHWA Office of the Chief Counsel, 202-366–1397, or via e-mail at [william.winne@dot.gov](mailto:william.winne@dot.gov). Office hours for the FHWA are from 8:00 a.m. to 4:30 p.m., e.t., Monday through Friday, except Federal holidays.

**SUPPLEMENTARY INFORMATION:**

**Electronic Access and Filing**

This document, the notice of proposed rulemaking (NPRM), and all comments received may be viewed online through the Federal eRulemaking portal at: <http://www.regulations.gov>. The Web site is available 24 hours each day, 365 days each year. Please follow the instructions. An electronic copy of this document may also be downloaded by accessing the Office of the Federal Register's Web site at <http://www.archives.gov> or the Government Printing Office's Web site at <http://www.gpo.gov/fdsys/>.

## **Background**

This final rule modifies the regulations that govern VE analyses in the planning and development of highway improvement projects due to recent changes to section 106(e) of title 23, United States Code. On July 6, 2012, MAP-21 (Public Law (PL) 112-141) was signed into law. Section 1503(a)(3) of MAP-21 amended 23 U.S.C. 106(e) by increasing the project monetary thresholds that trigger a VE analysis; eliminating the VE analysis requirement for design-build projects; and defining the requirements for a State Transportation Agency (STA) to establish and sustain a VE program.

The National Highway System Designation Act of 1995 directed the Secretary to establish a program that required States to carry out a VE analysis for all Federal-aid highway projects on the National Highway System (NHS) costing \$25 million or more. On February 14, 1997, FHWA established the FHWA VE program and the requirement that STAs create and sustain a VE program at title 23, Code of Federal Regulations, part 627 (23 CFR 627). Section 1904 of the Safe, Accountable, Flexible, Efficient

Transportation Equity Act: A Legacy for Users (SAFETEA–LU) (PL 109-59) required that a VE analysis be conducted for bridge projects with an estimated total cost of \$20 million or more and any other projects as determined by the Secretary of Transportation.

Section 1503(a)(3) of MAP-21 amends 23 U.S.C. 106(e) to modify the requirements for the value engineering program and raise the VE analysis requirement threshold to \$50,000,000 or more for projects on the NHS that use Federal-aid Highway Program Funding assistance, and \$40,000,000 or more for bridge projects on the NHS that receive Federal assistance. Section 1503(a)(3) removed the VE analysis requirement for design-build projects. In addition, MAP-21 defined the requirements for an STA to establish and sustain a VE program under which VE analyses are conducted on all applicable projects, consistent with the current regulations pertaining to STA VE Programs (as specified in 23 CFR 627.9).

In fiscal year 2011, STAs performed VE analyses on 378 Federal-aid highway projects and approved and implemented a total of 1,224 VE recommendations, resulting in a construction cost savings of \$1 billion. In addition, approved construction VE change proposals (VECPs), submitted by contractors and accepted by STAs, saved \$38.3 million.

The STA VE programs, the VE analyses conducted on applicable projects, and VECPs saved an annual average of \$1.7 billion from 2002 through 2011. Additional information on STA, local authority, and FHWA VE programs and practices is available at: <http://www.fhwa.dot.gov/ve>.

## **Summary Discussion of Comments Received in Response to the NPRM**

On August 29, 2013, the FHWA published an NPRM at 78 FR 53380 soliciting public comments on its proposal to update the regulations. The following presents an overview of the comments received in response to the NPRM. Seven STAs, three transportation industry organizations, and 26 individuals submitted comments.

The majority of comments focused on three themes: change in the required VE analyses thresholds, elimination of the VE analysis requirement for design-build projects, and the false perception that justification is required for projects falling below the thresholds.

### **Comments Directed at Specific Sections of the Proposed Revisions to 23 CFR Part 627**

#### **Section 627.1- Purpose and Applicability**

There was one comment received for this section which implied that the proposed change in the NPRM would require additional VE analyses and/or affect their timing. This change does neither. The change clarified that the State VE policies and procedures shall establish the State processes for identifying, conducting, and approving VE recommendations.

There also appeared to be some confusion over the definition of "approved recommendation". For this section, "approved recommendation" means those VE recommendations that were determined by the STA to be acceptable for inclusion in the project plans.

### **Section 627.3 – Definitions**

One comment was received requesting that FHWA define the term "Construction Manager/General Contractor" (CM/GC) in this section. The FHWA is in the process of preparing an NPRM for the CM/GC process. It is more appropriate that the CM/GC process be defined through that rulemaking.

A comment was received asking for clarification of 23 CFR 627.3 (definition of total project costs) and 627.5(a) (timing of VE analyses). It was unclear to the commenter if these two sections, taken together, would permit advanced utility relocations prior to the completion of a VE study. The definition of total project costs (23 CFR 627.3) is intended to define what costs are used in determining whether a project meets the VE analysis requirement threshold (as defined in 23 CFR 627.5(b)). The definition of total project cost is not intended to define the timing of the VE analysis. There is nothing in this section that would limit the timing of utility relocations.

The Tennessee DOT requested that the word "optimizing" replace "improving" in the definition of VE analysis in section 627.3. The common meaning of the term "optimizing" is to improve or develop as far as possible and/or to make the most effective use. The FHWA agrees that the term "optimizing" is a better fit for this definition. The definition for VE analysis is modified through this final rule.

### **Section 627.5 – Applicable Projects**

The Portland Cement Association agreed with the use of life cycle cost analysis in sections 627.5 and 627.9.

The FHWA received three comments from individuals that the definition of "applicable project" should not be limited to the NHS. Their reasoning was that Federal-aid funds, whether used for projects on or off the NHS, should require a VE analysis in order to provide the best use of funds. Congress, through MAP-21, established when VE analyses are required for federally funded projects. The VE requirements of \$50 million for highways and \$40 million for bridges are limited to the NHS.

The FHWA received 22 comments from individuals disagreeing with the proposed change to increase the thresholds. The commenters stated that projects of all sizes and scopes can benefit measurably from the application of the value methodology. Further, they expressed a perception that the increase in thresholds would result in missed opportunities for value enhancements. The FHWA agrees that projects below the MAP-21 thresholds may benefit from VE analyses. Therefore, the regulation is modified to include language to encourage VE analyses below the thresholds.

The FHWA received comments from two individuals and three STAs agreeing with the proposed change to increase the thresholds. The commenters stated that this change updates the program in accordance with the construction cost index growth. Also, they believe that VE concentration on higher cost projects yields better program results.

There were five comments from individuals that perceived a requirement that STAs must first justify conducting a VE analysis for projects falling below the thresholds of a required project. There is no requirement to justify VE analyses on projects falling below the thresholds. STAs have the flexibility to conduct a VE analysis on any project.

The American Association of State Highway and Transportation Officials' Value Engineering Technical Committee requested that the final rule clearly state that VE analyses are federally reimbursable. Value engineering is an engineering practice and is thus eligible for Federal reimbursement. This is made clear through the definition found under 23 CFR 1.11 (a); thus no further modifications in this regulation is needed.

One comment was received opposing the requirement to identify in STA policies and procedures when additional VE analyses should be considered under 627.5(d). The commenter stated that there is no such requirement in MAP-21. Section 106(e)(2)(C) of title 23, United States Code, explicitly authorizes the Secretary to require additional VE analyses as deemed appropriate. Section 627.5(d) does not require an STA to conduct additional VE analyses, rather it encourages that the policies and procedures consider additional VE analyses as the STA determines appropriate. To clarify, this section has been revised to replace "shall" with "should".

The FHWA received 11 comments from individuals disagreeing with the proposed change to remove the VE analysis requirement for design-build projects. The commenters stated that they have seen significant value enhancements for design-build projects that have undergone VE analysis. There were comments from three STAs and two associations supporting the proposal to exclude the VE analysis requirement for design-build projects. Congress, through MAP-21, established that VE analyses are not required for design-build projects. However, the regulation will encourage STAs to conduct VE analyses on design-build projects.

One comment was received from an individual that stated sections 627.5(e) and 627.5(b)(5) might be interpreted to conflict with each other. The FHWA does not believe these sections are in conflict. Section 627.5(e) states that a VE analysis is not required for projects delivered using the design-build method of construction. Section 627.5(b)(5) states that a VE analysis may be required on any Federal-aid highway program funded project the FHWA deems appropriate. Accordingly, FHWA would not require a design build project excepted from a VE analysis under section 627.5(e) to conduct a VE analysis under section 627.5(b)(5).

#### **Section 627.9 – Conducting a VE analysis**

One comment was received from an individual regarding the timing of VE analyses. The commenter appeared to imply that the language in the regulation did not allow for early VE analysis during the planning or environmental phases of a project. Section 627.9(a) provides the greatest flexibility for an STA to conduct a VE analysis. The section defines FHWA's intent that the VE analysis is to occur "as early as practicable in the planning or development of a project." Therefore the VE analysis may be completed anytime during the planning, environmental, or design phases of a project as long as there is enough project information to conduct an effective VE analysis. The decision on the timing of VE analyses is left to the STA's discretion as long as the VE analysis is conducted prior to the completion of the plans, specifications, and estimates package approval.



The American Road and Transportation Builders Association (ARTBA) requested that FHWA develop guidance on the opportune time to conduct a VE analysis. The FHWA has developed an order that provides more in-depth guidance to STAs on the timing of the VE analysis. The VE Order can be found at <http://www.fhwa.dot.gov/legisregs/directives/orders/13111b.cfm>. The optimum timing of a VE analysis is dependent on the type or scope of the transportation project. Because of this, FHWA has provided the greatest level of flexibility for the STAs to administer their VE programs.

ARTBA and the Maine DOT commented that the CM/GC process should also be covered under the exemption for design-build projects. Two commenters stated CM/GC is a different contracting method than design-build and therefore a VE analysis should be required. The CM/GC is a different type of construction delivery method than design-build. In a CM/GC project, the STA is responsible for the development of the design package and the CM/GC is responsible for providing pre-construction coordination and construction of the transportation facility. Design-build, however, authorizes the design-build firm to design and construct the project. Regardless, Congress provided an exemption for design-build but did not do so for CM/GC. To maximize contractor input, VE analysis for a CM/GC project allows the CM to be a part of the VE analysis. The FHWA agrees that the CM/GC contracting method provides a greater opportunity for contractor input during the design phase of a project. Since CM/GC is fairly new to the transportation industry and STAs are still learning the nuances of this delivery method,

the requirement for a VE analysis provides the greatest opportunity for the designer, contractor, and owner to work together to identify value improvement opportunities for the project. Realizing the differences in the CM/GC contracting method, FHWA included VE analysis guidance for CM/GC delivered projects in the VE Order.

### **Clarifications**

Other non-substantive edits were made to clarify the regulatory text. Such edits were made in sections 627.5(b)(4) (“construction” was added before “letting”); 627.5(c) (the last clause was revised to state “or programming multiple design or construction projects”); and 627.9(b) (added language to clarify “the project’s scope or schedule”).

Although no comments were received regarding the definition of the term “project,” we have clarified the definition in this final rule to align with the definition of the term “project” as found under 23 U.S.C. 101(a)(18). Additionally, the second sentence of the definition of a “project” was modified to better define the limits of a “project.” These clarifications do not change the scope of projects required to be accompanied by a VE analysis.

### **Rulemaking Analyses and Notices**

#### **Executive Order 12866 (Regulatory Planning and Review), Executive Order 13563 (Improving Regulation and Regulatory Review), and DOT Regulatory Policies and Procedures**

The FHWA has determined that this rule is not an economically significant rulemaking action within the meaning of Executive Order 12866 and DOT regulatory

policies and procedures. Additionally, this action complies with the principles of Executive Order 13563 by fostering the use of innovative technologies and methods while eliminating unnecessary and costly design elements. This rule establishes revised requirements for conducting VE analyses and it is anticipated that the economic impact of this rulemaking will be minimal. In addition, these changes will not interfere with any action taken or planned by another agency and will not materially alter the budgetary impact of any entitlements, grants, user fees, or loan programs.

### **Regulatory Flexibility Act**

In compliance with the Regulatory Flexibility Act (RFA) (PL 96-354, 5 U.S.C. 601-612), the FHWA has evaluated the effects of this rule on small entities. The FHWA has determined that this action does not have a significant economic impact on a substantial number of small entities. The regulation addresses VE studies performed by STAs on certain projects using Federal-aid highway funds. As such, it affects only States, and States are not included in the definition of small entity set forth in 5 U.S.C. 601. Therefore, the RFA does not apply, and the FHWA certifies that this action will not have a significant economic impact on a substantial number of small entities.

### **Unfunded Mandates Reform Act of 1995**

This final rule does not impose unfunded mandates as defined by the Unfunded Mandates Reform Act of 1995 (PL 104-4). Furthermore, in compliance with the Unfunded Mandates Reform Act of 1995, FHWA evaluated this rule to assess the effects on State, local, and Tribal governments and the private sector. This rule does not result

in the expenditure by State, local, and Tribal governments, in the aggregate, or by the private sector, of \$140.8 million or more in any one year (2 U.S.C. 1532). Additionally, the definition of Federal mandate in the Unfunded Mandates Reform Act excludes financial assistance of the type in which State, local, or Tribal governments have authority to adjust their participation in the program in accordance with changes made in the program by the Federal Government. The Federal-aid highway program permits this type of flexibility.

#### **Executive Order 13132 (Federalism Assessment)**

This rule has been analyzed in accordance with the principles and criteria contained in Executive Order 13132. The FHWA determined that this rule will not have a substantial direct effect or sufficient federalism implications to warrant preparation of a federalism assessment. The FHWA has also determined that this rule does not preempt any State law or regulation or affect the States' ability to discharge traditional State governmental functions.

#### **Executive Order 12372 (Intergovernmental Review)**

Catalog of Federal Domestic Assistance Program Number 20.205, Highway Planning and Construction. The regulations implementing Executive Order 12372 regarding intergovernmental consultation on Federal programs and activities apply to this program.

#### **Paperwork Reduction Act**

Under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.), Federal agencies must obtain approval from the Office of Management and Budget for each collection of information they conduct, sponsor, or require through regulations.

The FHWA has determined that this rule contains a requirement for data and information to be collected and maintained in support of compiling the results of the VE analyses that are conducted annually. The FHWA published a Notice of Proposed Rulemaking in the Federal Register on August 29, 2013 at 78 FR 53380 which solicited public comments regarding this information collection requirement. The FHWA received no comments.

It will take approximately 200 burden hours to compile the results of the VE analyses annually (400 analyses at 30 minutes each). It will take approximately 156 burden hours to compile the results of all of the VE analyses that are conducted annually by each State DOT, the District of Columbia, and Puerto Rico and to submit these results to FHWA (52 analyses at 3 hours each). The estimated total burden to provide the additional information to attain full compliance with the final rule is 356 hours.

#### **National Environmental Policy Act**

The FHWA has analyzed this rule for the purpose of the National Environmental Policy Act (42 U.S.C. 4321 et seq.). The FHWA determined that this rule will not have any effect on the quality of the human and natural environment because it only establishes the requirements that apply to VE analyses whenever an applicable Federal-

aid highway project is to be constructed. The promulgation of this regulation has been determined to be a categorical exclusion under 23 CFR 771.117(c)(20).

**Executive Order 13175 (Tribal Consultation)**

The FHWA has analyzed this action under Executive Order 13175. The FHWA believes that this rule does not have substantial direct effects on one or more Indian Tribes; does not impose substantial direct compliance costs on Indian Tribal governments; and does not preempt Tribal law. This rule establishes the requirements that apply to VE analyses whenever an applicable Federal-aid highway project is to be constructed and does not impose any direct compliance requirements on Indian Tribal governments, nor does it have any economic or other impacts on the viability of Indian Tribes. Therefore, a Tribal summary impact statement is not required.

**Executive Order 13211 (Energy Effects)**

The FHWA has analyzed this rule under Executive Order 13211. The FHWA determined that this rule does not constitute a significant energy action under that order since it will not have a significant adverse effect on the supply, distribution, or use of energy. Therefore, the FHWA certifies that a Statement of Energy Effects is not required.

**Executive Order 12898 (Environmental Justice)**

Executive Order 12898 requires that each Federal agency make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its

programs, policies, and activities on minorities and low-income populations. The FHWA has determined that this rule does not raise any environmental justice issues.

**Executive Order 12630 (Taking of Private Property)**

The FHWA has analyzed this rule under Executive Order 12630. The FHWA determined that this rule does not effect a taking of private property or otherwise have taking implications under Executive Order 12630.

**Executive Order 12988 (Civil Justice Reform)**

This action meets applicable standards in sections 3(a) and 3(b)(2) of Executive Order 12988 to minimize litigation, eliminate ambiguity, and reduce burden.

**Executive Order 13045 (Protection of Children)**

The FHWA has analyzed this rule under Executive Order 13045. The FHWA certifies that this rule does not cause an environmental risk to health or safety that may disproportionately affect children.

**Regulation Identification Number**

A regulation identification number (RIN) is assigned to each regulatory action listed in the Unified Agenda of Federal Regulations. The Regulatory Information Service Center publishes the Unified Agenda in April and October of each year. The RIN number contained in the heading of this document can be used to cross-reference this action with the Unified Agenda.

**List of Subjects in 23 CFR Part 627**

Grant programs-transportation, Highways and roads.

Issued on: August 27, 2014

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Gregory G. Nadeau  
Acting Administrator  
Federal Highway Administration

In consideration of the foregoing, the FHWA revises 23 CFR part 627 to read as follows:

**PART 627--VALUE ENGINEERING**

Sec.

627.1 Purpose and applicability.

627.3 Definitions.

627.5 Applicable projects.

627.7 VE programs.

627.9 Conducting a VE analysis.

Authority: 23 U.S.C. 106(e), 106(g), 106(h), 112(a) and (b), 302, 315; and 49 CFR part 18.

**§ 627.1 Purpose and applicability.**



(a) The purpose of this part is to prescribe the programs, policies and procedures for the integration of value engineering (VE) into the planning and development of all applicable Federal-aid highway projects.

(b) Each State transportation agency (STA) shall establish and sustain a VE program. This program shall establish the policies and procedures under which VE analyses are identified, conducted and approved VE recommendations implemented on applicable projects (as defined in § 627.5 of this part). These policies and procedures should also identify when a VE analysis is encouraged on all other projects where there is a high potential to realize the benefits of a VE analysis.

(c) The STAs shall establish the policies, procedures, functions, and capacity to monitor, assess, and report on the performance of the VE program, along with the VE analyses that are conducted and Value Engineering Change Proposals (VECP) that are accepted. The STAs shall ensure that its sub-recipients conduct VE analyses in compliance with this part.

### **§ 627.3 Definitions.**

The following terms used in this part are defined as follows:

(a) *Bridge project.* A bridge project shall include any project where the primary purpose is to construct, reconstruct, rehabilitate, resurface, or restore a bridge.

(b) *Final design.* Any design activities following preliminary design and expressly includes the preparation of final construction plans and detailed specifications for the performance of construction work.

(c) *Project*. The term “project” means any undertaking eligible for assistance under title 23 of the United States Code. The limits of a project are defined as the logical termini in the environmental document and may consist of several contracts, or phases of a project or contract, which may be implemented over several years.

(d) *Total project costs*. The estimated costs of all work to be conducted on a project including the environment, design, right-of-way, utilities and construction phases.

(e) *Value Engineering (VE) analysis*. The systematic process of reviewing and assessing a project by a multidisciplinary team not directly involved in the planning and development phases of a specific project that follows the VE Job Plan and is conducted to provide recommendations for:

- (1) Providing the needed functions, considering community and environmental commitments, safety, reliability, efficiency, and overall life-cycle cost (as defined in 23 U.S.C. 106(f)(2));
- (2) Optimizing the value and quality of the project; and
- (3) Reducing the time to develop and deliver the project.

(f) *Value Engineering (VE) Job Plan*. A systematic and structured action plan for conducting and documenting the results of the VE analysis. While each VE analysis shall address each phase in the VE Job Plan, the level of analysis conducted and effort expended for each phase may be scaled to meet the needs of each individual project. The VE Job Plan shall include and document the following seven phases:

- (1) Information Phase: Gather project information including project commitments and constraints.
  - (2) Function Analysis Phase: Analyze the project to understand the required functions.
  - (3) Creative Phase: Generate ideas on ways to accomplish the required functions which improve the project's performance, enhance its quality, and lower project costs.
  - (4) Evaluation Phase: Evaluate and select feasible ideas for development.
  - (5) Development Phase: Develop the selected alternatives into fully supported recommendations.
  - (6) Presentation Phase: Present the VE recommendation to the project stakeholders.
  - (7) Resolution Phase: Evaluate, resolve, document and implement all approved recommendations.
- (g) *Value Engineering Change Proposal (VECP)*. A construction contract change proposal submitted by the construction contractor based on a VECP provision in the contract. These proposals may improve the project's performance, value and/or quality, lower construction costs, or shorten the delivery time, while considering their impacts on the project's overall life-cycle cost and other applicable factors.

**§ 627.5 Applicable projects.**

- (a) A VE analysis shall be conducted prior to the completion of final design on each applicable project that utilizes Federal-aid highway funding, and all approved

recommendations shall be included in the project's plans, specifications and estimates prior to authorizing the project for construction (as specified in 23 CFR 630.205).

(b) Applicable projects requiring a VE analysis shall include the following:

(1) Each project located on the National Highway System (NHS) (as specified in 23

U.S.C. 103) with an estimated total project cost of \$50 million or more that utilizes

Federal-aid highway funding;

(2) Each bridge project located on the NHS with an estimated total project cost of \$40

million or more that utilizes Federal-aid highway funding;

(3) Any major project (as defined in 23 U.S.C. 106(h)), located on or off of the NHS,

that utilizes Federal-aid highway funding in any contract or phase comprising the

major project;

(4) Any project where a VE analysis has not been conducted and a change is made to

the project's scope or design between the final design and the construction letting

which results in an increase in the project's total cost exceeding the thresholds

identified in paragraphs (b)(1), (2) or (3) of this section; and

(5) Any other project FHWA determines to be appropriate that utilizes Federal-aid

highway program funding.

(c) An additional VE analysis is not required if, after conducting a VE analysis required under this part, the project is subsequently split into smaller projects in the design phase or the project is programmed to be completed by the letting of multiple construction projects. However, the STA may not avoid the requirement to conduct a VE analysis on

an applicable project by splitting the project into smaller projects, or programming multiple design or construction projects.

(d) The STA's VE Program's policies and procedures should identify when VE analyses are to be considered or conducted for projects falling below the required thresholds identified in paragraph (b) of this section in the planning and development of transportation projects where there is a high potential for the project to benefit from a VE analysis. While not required, FHWA encourages STAs to consider the following projects that may benefit from a VE analysis:

- (1) Complex projects on or off the NHS that have a total project cost of \$25 million or more;

- (2) Complex Bridge Projects on or off the NHS with an estimated total project cost of \$20 million or more;

- (3) Design-build projects on or off the NHS with an estimated cost of \$25 million or more; and

- (4) Any other complex, difficult or high cost project as determined by the STA.

(e) A VE analysis is not required for projects delivered using the design-build method of construction. While not required, FHWA encourages STAs and local public authorities to conduct a VE analysis on design-build projects that meet the requirements identified in paragraph (b) of this section.

(f) A VE analysis is required on projects delivered using the Construction Manager/General Contractor (CM/GC) method of contracting, if the project meets the requirements identified in paragraph (b) of this section.

**§ 627.7 VE programs.**

(a) The STA shall establish and sustain a VE program under which VE analyses are identified, conducted and approved VE recommendations implemented on all applicable projects (as defined in § 627.5). The STA's VE program shall:

- (1) Establish and document VE program policies and procedures that ensure the required VE analysis is conducted on all applicable projects, and encourage conducting VE analyses on other projects that have the potential to benefit from this analysis;
- (2) Ensure the VE analysis is conducted and all approved recommendations are implemented and documented in a final VE report prior to the project being authorized to proceed to a construction letting;
- (3) Monitor and assess the VE Program, and disseminate an annual report to the FHWA consisting of a summary of all approved recommendations implemented on applicable projects requiring a VE analysis, the accepted VECs, and VE program functions and activities;
- (4) Establish and document policies, procedures, and contract provisions that identify when VEC's may be used; identify the analysis, documentation, basis, and process

- for evaluating and accepting a VECP; and determine how the net savings of each VECP may be shared between the agency and contractor;
- (5) Establish and document policies, procedures, and controls to ensure a VE analysis is conducted and all approved recommendations are implemented for all applicable projects administered by local public agencies; and ensure the results of these analyses are included in the VE program monitoring and reporting; and
- (6) Provide for the review of any project where a delay occurs between when the final plans are completed and the project advances to a letting for construction to determine if a change has occurred to the project's scope or design where a VE analysis would be required to be conducted (as specified in § 625.5(b)).
- (b) STAs shall ensure the required VE analysis has been performed on each applicable project including those administered by subrecipients, and shall ensure approved recommendations are implemented into the project's plans, specifications, and estimates prior to the project being authorized for construction (as specified in 23 CFR 630.205).
- (c) STAs shall designate a VE Program Coordinator to promote and advance VE program activities and functions. The VE Coordinator's responsibilities should include establishing and maintaining the STA's VE policies and procedures; facilitating VE training; ensuring VE analyses are conducted on applicable projects; monitoring, assessing, and reporting on the VE analyses conducted and VE program; participating in periodic VE program and project reviews; submitting the required annual VE report to the FHWA; and supporting the other elements of the VE program.

**§ 627.9 Conducting a VE analysis.**

(a) A VE analysis should be conducted as early as practicable in the planning or development of a project, preferably before the completion of the project's preliminary design. At a minimum, the VE analysis shall be conducted prior to completing the project's final design.

(b) The VE analysis should be closely coordinated with other project development activities to minimize the impact approved recommendations might have on previous agency, community, or environmental commitments; the project's scope or schedule; and the use of innovative technologies, materials, methods, plans or construction provisions.

(c) When the STA or local public agency chooses to conduct a VE analysis for a project utilizing the design-build project delivery method, the VE analysis should be performed prior to the release of the final Request for Proposals or other applicable solicitation documents.

(d) For projects delivered using the CM/GC contracting method, a VE analysis is not required prior to the preparation and release of the RFP for the CM/GC contract. The VE analysis is required to be completed and approved recommendations incorporated into the project plans prior to requesting a construction price proposal from the CM/GC contractor.

(e) STAs shall ensure the VE analysis meets the following requirements:



- (1) Uses a multidisciplinary team not directly involved in the planning or design of the project, with at least one individual who has training and experience with leading VE analyses;
- (2) Develops and implements the VE Job Plan;
- (3) Produces a formal written report outlining, at a minimum:
  - (i) Project information;
  - (ii) Identification of the VE analysis team;
  - (iii) Background and supporting documentation, such as information obtained from other analyses conducted on the project (e.g., environmental, safety, traffic operations, constructability);
  - (iv) Documentation of the stages of the VE Job Plan which would include documentation of the life-cycle costs that were analyzed;
  - (v) Summarization of the analysis conducted;
  - (vi) Documentation of the proposed recommendations and approvals received at the time the report is finalized; and
  - (vii) The formal written report shall be retained for at least 3 years after the completion of the project.
- (f) For bridge projects, in addition to the requirements in subsection (e), the VE analyses shall:
  - (1) Include bridge substructure and superstructure requirements that consider alternative construction materials; and

- (2) Be conducted based on:
- (i) An engineering and economic assessment, taking into consideration acceptable designs for bridges; and
  - (ii) An analysis of life-cycle costs and duration of project construction.
- (g) STAs and local public agencies may employ qualified consultants (as defined in 23 CFR 172.3) to conduct a VE analysis. The consultant shall possess training and experience with leading VE analyses. A consulting firm or individual shall not be used to conduct or support a VE analysis if they have a conflict of interest (as specified in 23 CFR 1.33).
- (h) STAs, and local public agencies are encouraged to use a VECP clause (or other such clauses under a different name) in an applicable project's contract, allowing the construction contractor to propose changes to the project's plans, specifications, or other contract documents. Whenever such clauses are used, the STA and local authority will consider changes that could improve the project's performance, value and quality, shorten the delivery time, or lower construction costs, while considering impacts on the project's overall life-cycle cost and other applicable factors. The basis for a STA or local authority to consider a VECP is the analysis and documentation supporting the proposed benefits that would result from implementing the proposed change in the project's contract or project plans.
- (i) Proposals to accelerate construction after the award of the contract will not be considered a VECP and will not be eligible for Federal-aid highway program funding

participation. Where it is necessary to accelerate construction, STAs and local public agencies are encouraged to use the appropriate incentive or disincentive clauses so that all proposers will take this into account when preparing their bids or price proposals.

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